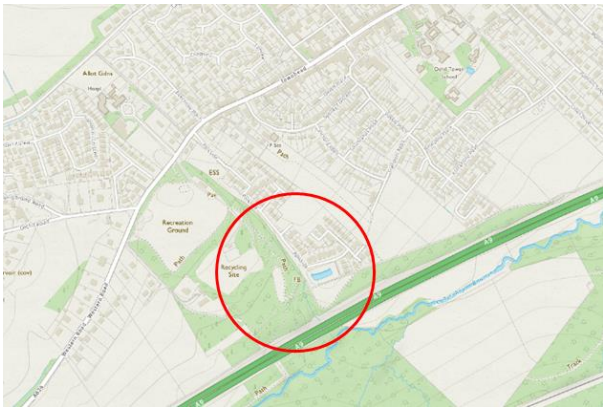
SATIN Case Study Auchterarder Shared-Use Path – Phase 2

May 2018

SATIN
Scottish Access Technical Information Network

Background

'**Auchterarder - Phase 2**' is a 1.5km shared-use active-travel path providing an 'all-abilities' compliant route from the local recycling centre, situated within Jubilee Park, to Glenburn Road. The wider vision for this area, to be achieved over several phases, was to provide an off-road link to access the Gleneagles train station. Prior to these works taking place, the existing path suffered from steep gradients and the worn, whin dust surfaced path was found to be unsatisfactory for many users. Added to this was the use of timber edging and installation of rammed earth steps with no formal drainage. A new route was required which was gradient friendly, well drained and better constructed thus encouraging people who would have previously avoided the area to consider a more active travel option.



Technical Detail

A tree-root protection cellular confinement system (TRP) was been implemented for a 75m stretch of this project to protect a major stand of very large, mature specimen conifers including eleven Douglas Firs and three Norway Spruce trees over 20m tall from being damaged through excessive loading from traditional construction methods. Cellweb TRP®, Techcell and Geoweb® are typical versions of the technology.

Firstly, the surface was prepared by removing vegetation, debris and rocks. A suitable herbicide was then applied, ensuring it would not impact the roots. A non-woven geotextile was placed on the prepared surface to ensure no vegetation would grow back and affect the TRP.

Technical Detail (contd.)

A regulating layer of clean angular type 4/20mm stone was laid to create an even formation. On top of this the first layer of the TRP was laid. J-pins were used to tie the cellular confinement system down in the centre cell at the end of each panel which secured the system into the ground. The cells were stretched out and secured at the other end.

To ensure an even spread of cells they were tied down around the edges to achieve a cell size of 259mm x 224mm. Adjacent panels were then stapled together in accordance with the manufacturer's stapling arrangement. Once the first layer was arranged, further clean angular graded type 4/20mm stone was poured into each of the cells with a minimum of a 25mm overfill.

For this project several layers of the tree root protection system were used. Each layer was completed in the same process until the desired level was formed.

On top of this a 60mm layer of porous asphalt was laid allowing water to percolate through the layers. Throughout the construction heavy-duty HDPE ground protection mats were placed for the machinery to go over to transfer the loads and avoid root damage near the path alignment.

Project Outputs and Outcomes

To achieve a DDA compliant route without the TRP system would have been a near impossible task. The contractor was able to complete the laying of the system and materials without any difficulties and the project took a little longer than originally projected due to poor weather over the winter period.

The cost for the TRP system, including installation, was approx. £30,300 (ex VAT) for 75 linear metres of path. This included applying several layers of the system and the infill to create a permeable embankment surrounding the trees.

Evaluation

The project provided a new link from the previous phase which is now usable for all. The route proves to be popular with the locals in the area and is used by many on a daily basis. Path width was able to be maintained throughout due to the TRP system allowing construction to take place in close proximity to the trees while completely protecting them as if no works had ever been done. This system proves to be extremely useful for designers, allowing them to overcome alignment issues by not having to discount heavily-rooted areas where otherwise only the removal of trees would be a solution. All types of trees can be protected, especially in designed landscapes, however completely avoiding areas with these trees does not need to happen anymore making for more attractive routes.

Key Learning Points:

- Involve a specialist consultant to help develop the path design: they will help to ensure the route complies with current best practice and is built to the required specification.
- Appraise the route within the context of the local access network. Ensure that it is or will be integrated with the local network rather than an addition to it.
- Look for opportunities to work with partners, who may be responsible for neighbouring land, to make sure the entire route of the trail meets accessibility standards.
- Involve local groups that represent path users in planning the trail, and be prepared to respond to their concerns.
- Meeting the Countryside for All standard improves access for everyone, not only disabled visitors.
- Draw up tight contract specifications and supervise contractors carefully, especially if they have little experience of building easy access trails.
- Where possible, ensure all aspects of the work are included in the project plan and budget.
- Where ownership or responsibility for a facility is shared, work closely with neighbours and partners to develop a cohesive plan.
- Build in an on-going maintenance budget to ensure the trail continues to meet accessibility standards and does not fall below them due to erosion or other factors.
- Allow flexibility in the budget for essential features like drainage.

For more information, please contact:

Karlene Doherty
Head of Transport, Planning & Engineering
24 Blythswood Square
Glasgow
G2 4BG

Tel: 0141 229 5448

@TPandEscot

www.tpande.scot